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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,328	04/07/2004	John Santhoff	029C-125	8509
44279	7590	05/18/2007	EXAMINER	
PULSE-LINK, INC.			ODOM, CURTIS B	
1969 KELLOGG AVENUE			ART UNIT	PAPER NUMBER
CARLSBAD, CA 92008			2611	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/820,328	<b>Applicant(s)</b> SANTHOFF, JOHN	
	<b>Examiner</b> Curtis B. Odom	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 9-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 8-12 of U.S. Patent No. 6, 782, 048. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the patent read on the limitations of the claims of the instant application.

Claim 1 of the patent recites "A method of increasing a bandwidth of a community access television network, the method comprising the steps of: providing a community access television network; combining a multiplicity of ultra-wideband signals representative of data with a community access television network signal prior to a signal transmission; receiving a combined signal comprising the multiplicity of ultra-wideband signals representative of data and the

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community access television network signal; and separating the combined signal into the multiplicity of ultra-wideband signals representative of data and the community access television network signal.” Claims 9 and 15 of the instant application recite “A method of transmitting data through a community access television network, the method comprising the steps of: providing the community access television network; and transmitting an ultra-wideband signal through the community access television network, wherein (see claim 15) the ultra-wideband signal is transmitted substantially simultaneously with a community access television signal”.

It is the understanding of the examiner that although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the patent recite all the limitations of the claims of the instant application. Claims 9 and 15 of the instant application simply recites broader limitations of claim 1 of the patent, and simply excludes narrowing limitations such as **“receiving a combined signal comprising the multiplicity of ultra-wideband signals representative of data and the community access television network signal; and separating the combined signal into the multiplicity of ultra-wideband signals representative of data and the community access television network signal.”** However, it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. See *In re Karlson*, 136 USPX 184 (CCPA 1963). Also note *Ex parte Rainu*, 168 USPQ 375 (BdPatApp&Int 1970); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Claim 8 of the patent, which depends on claim 1, recites all the limitations of claim 10 of the instant application, which depends on claim 9.

Claim 9 of the patent, which depends on claim 1, recites all the limitations of claim 11 of the instant application, which depends on claim 9.

Claim 10 of the patent, which depends on claim 1, recites all the limitations of claim 12 of the instant application, which depends on claim 9.

Claim 11 of the patent, which depends on claim 1, recites all the limitations of claim 13 of the instant application, which depends on claim 9.

Claim 12 of the patent, which depends on claim 1, recites all the limitations of claim 10 of the instant application, which depends on claim 9.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-8 and 22-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Fullerton et al. (U. S. Patent No. 5, 677, 927).

Regarding claim 1, Fullerton et al. discloses an ultra-wideband communication system (see Fig. 9) for a wired (cable) network (see column 13, lines 19-28), comprising:

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an ultra-wideband transmitter (Fig. 10) structured to transmit an ultra-wideband signal (see column 14, lines 6-22) through the wired network; and

an ultra-wideband receiver (see Fig. 14, column 16, lines 42-56) structured to receive the ultra-wideband signal from the wired network.

Regarding claim 2, Fullerton et al. discloses the ultra-wideband signal comprises an impulse radio signal (see column 10, lines 43-48).

Regarding claim 3, Fullerton et al. discloses the ultra-wideband signal comprises a pulse of electromagnetic energy having a duration that can range between about 0.1 nanoseconds to about 100 nanoseconds (see column 7, line 64-column 8, line 3).

Regarding claim 4, Fullerton et al. discloses wherein the ultra-wideband signal comprises a pulse of electromagnetic energy having a duration that can range between about 0.1 nanoseconds to about 100 nanoseconds (see column 7, line 64-column 8, line 3) and a power that can range between about 30 power decibels to about -90 power decibels, as measured at a single frequency (see column 27, lines 66-67 and column 8, lines 1-16 and 31-39).

Regarding claim 5, Fullerton et al. discloses the ultra-wideband transmitter comprises an ultra-wideband pulse position modulator (see column 14, lines 44-57), that is structured to transmit a multiplicity of ultra-wideband subcarrier signals (see column 18, lines 52-62).

Regarding claim 6, Fullerton et al. discloses the ultra-wideband receiver comprises an ultra-wideband pulse demodulator (see column 17, lines 31-43) that can be structured to receive a plurality of ultra-wideband subcarrier signals (see column 18, lines 62-65).

Regarding claim 7, Fullerton et al. discloses the wire employed is a coaxial cable (see column 13, lines 19-28), wherein a coaxial cable is a cable.

Regarding claim 8, Fullerton et al. discloses the wired network can be a local area network (see column 12, line 63-column 12, line 2).

Regarding claim 22, Fullerton et al. discloses an ultra-wideband communication system (see Fig. 9) structured to transmit and receive data through a for a wired (cable) network (see column 13, lines 19-28), comprising:

an ultra-wideband transmitter (Fig. 10) positioned at a first location on the network, structured to transmit an ultra-wideband signal (see column 14, lines 6-22) through the wired network; and

an ultra-wideband receiver (see Fig. 14, column 16, lines 42-56) positioned at a second location on the network, structured to receive the ultra-wideband signal from the wired network.

Regarding claim 23, Fullerton et al. discloses the wired network can be a local area network (see column 12, line 63-column 12, line 2).

Regarding claim 24, Fullerton et al. discloses the wired medium employed is a coaxial cable (see column 13, lines 19-28), wherein a coaxial cable is a cable.

Regarding claim 25, Fullerton et al. discloses the ultra-wideband signal comprises an impulse radio signal (see column 10, lines 43-48).

Regarding claim 26, Fullerton et al. discloses the ultra-wideband signal comprises a pulse of electromagnetic energy having a duration that can range between about 0.1 nanoseconds to about 100 nanoseconds (see column 7, line 64-column 8, line 3).

Regarding claim 27, Fullerton et al. discloses wherein the ultra-wideband signal comprises a pulse of electromagnetic energy having a duration that can range between about 0.1 nanoseconds to about 100 nanoseconds (see column 7, line 64-column 8, line 3) and a power that

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can range between about 30 power decibels to about -90 power decibels, as measured at a single frequency (see column 27, lines 66-67 and column 8, lines 1-16 and 31-39).

Regarding claim 28, Fullerton et al. discloses the ultra-wideband transmitter comprises an ultra-wideband pulse position modulator (see column 14, lines 44-57), that is structured to transmit a multiplicity of ultra-wideband subcarrier signals (see column 18, lines 52-62).

Regarding claim 29, Fullerton et al. discloses the ultra-wideband receiver comprises an ultra-wideband pulse demodulator (see column 17, lines 31-43) that can be structured to receive a plurality of ultra-wideband subcarrier signals (see column 18, lines 62-65).

5. Claim 9, 10, and 15-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Centore, III (U. S. Patent No. 7, 013, 145).

Regarding claim 9, Centore, III discloses a method of transmitting data through a community access television network (see column 14, lines 38-47), the method comprising the steps of:

providing the community access television network (see column 3, lines 6-16); and  
transmitting an ultra-wideband signal through the community access television network (see column 3, lines 16-26) through simultaneous use of the spectrum.

Regarding claim 10, Centore discloses the television network is a cable television network (see column 14, lines 38-47).

Regarding claim 15, Centore discloses the ultra-wideband signal is transmitted substantially simultaneously with a television signal through simultaneous use of the spectrum (see column 6, lines 16-26).



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Regarding claim 16, Centore discloses the television signal is a digital video/television signal (see column 14, lines 38-47).

Regarding claim 17, Centore discloses the ultra-wideband signal and television signal use a common portion of an electromagnetic spectrum (see column 3, lines 16-26).

Regarding claim 18, Centore discloses the ultra-wideband signal and television signal are transmitted in a frequency band that can range from 100 KHz to 3GHz (see column 3, lines 6-26), wherein the signals can be transmitted in any frequency band as described in column 3, lines 14-26.

Regarding claim 19, Centore discloses the ultra-wideband signal is transmitted substantially simultaneously with a television signal through use of adjacent (separate) portions of a spectrum (see column 3, lines 27-32).

Regarding claim 20, Centore discloses the ultra-wideband signal is transmitted in a frequency band that can range from between about 880 MHz to about 3 GHz and a television network signal is transmitted in a frequency band that can range from between about 100 KHz to about 3 GHz (see column 3, lines 6-26), wherein the signals can be transmitted simultaneously or concurrently in any frequency band as described in column 3, lines 14-26.

Regarding claim 21, Centore discloses the ultra-wideband signal is transmitted substantially simultaneously with a television signal through use of adjacent (separate) portions of a spectrum (see column 3, lines 27-32), wherein any frequency band can be used (see column 3, lines (14-26)). Therefore, it is the understanding of the Examiner that based on the above disclosure, Centore discloses an ultra-wideband signal transmitted in a frequency band that can

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range from between about 1 GHz to about 3 GHz and a television network signal transmitted in an adjacent frequency band that can range from between about 1 MHz to about 900 MHz.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Centore, III (U. S. Patent No. 7, 013, 145) as applied to claim 9, in view of Fullerton et al. (U. S. Patent No. 5, 677, 927)

Regarding claims 11-14, Centore does not disclose the ultra-wideband signal comprises an impulse radio signal, the ultra-wideband signal comprises a pulse of electromagnetic energy having a duration that can range between about 0.1 nanoseconds to about 100 nanoseconds, the ultra-wideband signal comprises a power that can range between about 30 power decibels to about -90 power decibels, as measured at a single frequency, and the ultra-wideband signal is used to transmit telephony data.

However, Fullerton et al. discloses an ultra-wideband signal comprises an impulse radio signal (see column 10, lines 43-48), the ultra-wideband signal comprises a pulse of electromagnetic energy having a duration that can range between about 0.1 nanoseconds to about 100 nanoseconds (see column 7, line 64-column 8, line 3) and a power that can range between

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about 30 power decibels to about -90 power decibels, as measured at a single frequency (see column 27, lines 66-67 and column 8, lines 1-16 and 31-39), wherein the ultra-wideband signal is used to transmit telephony data (see column 12, line 63-column 12, line 2). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the ultra-wideband signal of Centore with the ultra-wideband signal of Fullerton et al. since Fullerton et al. discloses ultra-wideband (impulse radio) signal have excellent immunity to jamming and multipath fading (see column 7, lines 1-8).

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis B. Odom whose telephone number is 571-272-3046. The examiner can normally be reached on Monday- Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Curtis Odom', with a long horizontal flourish extending to the right.

Curtis Odom  
May 13, 2007